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(पहला पुनरीक्षण)

Indian Standard

DOMED CAP NUTS — SPECIFICATION

(*First Revision*)

UDC 621·882·38

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

December 1991

Price Group 2

Bolts, Nuts and Fasteners Accessories Sectional Committee, LMD 14

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Bolts, Nuts and Fasteners Accessories Sectional Committee had been approved by the Light Mechanical Engineering Division Council.

Domed cap nuts were originally covered in IS 2687 : 1964 'Specification for cap nuts and domed cap nuts'. Consequent upon the revision of IS 2687 in the year 1975, domed cap nuts were separately covered in this standard. Domed cap nuts are blind tapped hexagonal nuts used for providing sealing for projected threaded parts or sometimes merely for decorative purposes.

In this revision, following changes have been made:

a) All the non-preferred sizes have been deleted.

b) The width across flat dimension has been changed for thread size M10, M12 from 17 and 19 to 16 and 18 mm respectively. The dimensions relating to old width across flats are given below:

Nominal Thread Size	*Old Width Across Flat(s)*		d_w	e	d_k	r
	Max=Nom	*Min*	*Min*	*Min*	*Max*	≃
10	17	16·73	15·3	18·9	16	8
12	19	18·67	17·2	21·1	18	9

c) The nut bearing faces have been specified more precisely by introducing dimensions d_a and d_w.

d) Minimum wrenching height, m′ has been included.

e) The precision grade P has been redesignated as Product Grade A as per IS 1367 (Part 2) : 1979.

f) The standard has been fully revised by changing the contents and presentation.

The domed cap nuts of thread sizes M10 and M12 with old width across flats dimension shall be phased out of production and use gradually.

In revision of this standard, assistance has been derived from DIN 1587-1987 'Hexagon domed cap nuts', issued by DIN.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

DOMED CAP NUTS — SPECIFICATION

(*First Revision*)

1 SCOPE

This Indian Standard covers the requirements for domed cap nuts in the size range M4 to M24.

2 REFERENCES

The following Indian Standards are necessary adjuncts to this standard:

IS No.	*Title*
1367	Technical supply conditions for threaded steel fasteners:
(Part 1) : 1980	Introduction and general information (*second revision*)
(Part 2) : 1979	Product grades and tolerances (*second revision*)
(Part 6) : 1980	Mechnical properties and test methods for nuts with specified proof loads (*second revision*)
(Part 10) : 1979	Surface discontinuities on nuts (*second revision*)
(Part 11) : 1979	Electroplated coatings on threaded fasteners (under preparation)
(Part 14) : 1984	Stainless steel threaded fasteners (*second revision*)
(Part 18) : 1979	Marking and mode of delivery (*second revision*)
1369 : 1982	Dimensions for screw thread runouts and and undercuts (*second revision*)
2614 : 1969	Methods of sampling of fasteners (*first revision*)
4218	ISO Metric screw threads:
(Part 5) : 1979	Tolerances (*first revision*)
(Part 6) : 1978	Limits of sizes for commercial bolts and nuts (Diameter range 1 to 52 mm) (*first revision*)
9519 : 1980	Dimensions for width across flats for hexagon head bolts and nuts

3 TECHNICAL SUPPLY CONDITIONS

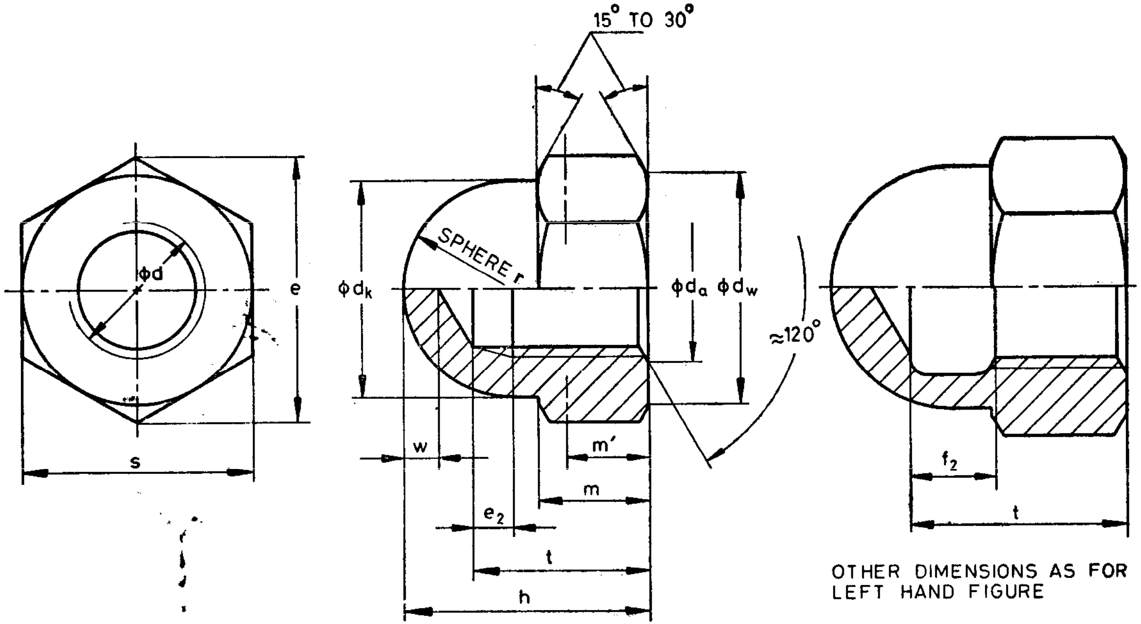
Dimensions		Table 1		
Tolerances	Product Grade	A		
	Indian Standard	IS 1367 (Part 2) : 1979		
Screw Threads	Tolerance	6H		
	Indian Standards	IS 4218 (Part 5) : 1979 IS 4218 (Part 6) : 1978		
Material		Steel	Stainless steel	Non-ferrrous metal
Mechanical Properties[1]	Property Class	5	A1-50	Brass or Al. Alloy
	Indian Standards	IS 1367 (Part 6) : 1980	IS 1367 (Part 14) : 1984	Min Tensile Strength 300 N/mm²
Finish		As produced or electroplated	As produced	As produced

[1] Materials other than those specified may be agreed to between the purchaser and the supplier.

Table 1 Dimensions for Domed Cap Nuts

(*Clause* 3)

All dimensions in millimetres.



m′ = MINIMUM WRENCHING WIDTH

FOR SIZES UP TO M10 FOR SIZES M12 & ABOVE

Thread	Series 1	**M4**	**M5**	**M6**	**M8**	**M10**	**M12**	**M16**	**M20**	**M24**
d	Series 2	—	—	—	M8×1	M10×1	M12 × 1·5	M16×1·5	M20×2	M24×2
	Series 3	—	—	—	—	M10×1·25	M12×1·25	—	M20×1·5	—
P[1]		0·7	0·8	1	1·25	1·5	1·75	2	2·5	3
d_a	*Min*	4	5	6	8	10	12	16	20	24
	Max	4·6	5·75	6·75	8·75	10·8	13	17·3	21·6	25·9
d_k	*Max*	6·5	7·5	9·5	12·5	15	17	23	28	34
d_w	*Min*	5·8	6·8	8·3	11·3	14·3	16·2	22·2	28·2	33·2
e	*Min*	7·66	8·79	11·05	14·38	17·77	20·03	26·75	33·53	39·98
e_2[2] *Max*	Series 1	1·4	1·6	2	2·5	3	—	—	—	—
	Series 2	—	—	—	2	2	—	—	—	—
	Series 3	—	—	—	—	2·5	—	—	—	—
f_2[3] *Max*	Series 1	—	—	—	—	—	6·4	7·3	9·3	10·7
	Series 2	—	—	—	—	—	5·6	5·6	7·3	7·3
	Series 3	—	—	—	—	—	4·9	—	5·6	—
h	*Max*=Nom	8	10	12	15	18	22	28	34	42
	Min	7·64	9·64	11·57	14·57	17·57	21·48	27·48	33·38	41·38
m	*Max*	3·2	4	5	6·5	8	10	13	16	19
	Min	2·9	3·7	4·7	6·14	7·64	9·64	12·3	14·9	17·7
m'	*Min*	2·32	2·96	3·76	4·91	6·11	7·71	9·84	11·92	14·16
r		3·25	3·75	4·75	6·25	7·5	8·5	11·5	14	17
s	*Max*=Nom	7	8	10	13	16	18	24	30	36
	Min	6·78	7·78	9·78	12·73	15·73	17·73	23·67	29·67	35·38
t	*Min*	5·26	7·21	7·71	10·65	12·65	15·65	20·58	25·58	30·5
	Max	5·74	7·79	8·29	11·35	13·35	16·35	21·42	26·42	31·5
w	*Min*	2	2	2	2	2	3	4	5	6

[1] P = Coarse pitch as per IS 4218 for Series 1.

[2] For sizes ⩽ M10 Thread underout or thread runout e^2 *Max* = $2P$.

[3] For size > M10 thread undercut not to exceed f^2 *Max* (short) as per IS 1369 : 1982.

4 DESIGNATION

4.1 The domed cap nut shall be designated by the nomenclature, thread size and number of this standard.

4.1.1 A domed cap nut of thread size M12 made out of steel shall be designated as:

Domed Cap Nut M12 — IS 7790

4.1.2 When the domed cap nuts are required to be phosphated, the letter 'P' shall be added at the designation.

4.2 When stainless steel, brass or aluminium alloy is used for domed cap nuts, the word 'stainless steel', 'brass' or 'aluminium' shall be added at the end of the designation.

4.2.1 A domed cap nut of thread size M12 and made of brass shall be designated as domed cap nut M12 — IS 7790 — Brass.

5 GENERAL REQUIREMENTS

5.1 With respect to surface discontinuities, the domed cap nuts shall conform to IS 1367 (Part 10) : 1979.

5.2 In respect of requirement not covered in this standard, the nuts shall conform to IS 1367 (Part 1) : 1980.

6 SAMPLING

6.1 Sampling and criteria for acceptance shall be in accordance with IS 2614 : 1969.

7 MARKING AND MODE OF DELIVERY

7.1 The marking of the domed cap nuts and mode of delivery shall be in accordance with IS 1367 (Part 18) : 1979.

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